

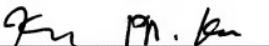
U.S. Patent Application Serial No. 10/720,330
Reply Brief Under 37 CFR § 41.37
Docket No. 46521-56183

PATENT

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In re application of:	McCormick	:	Customer No. 021888
Serial No.:	10/720,330	:	Examiner: Bowers, Nathan Andrew
Filed:	November 24, 2003	:	Group Art Unit: 1797
For:	APPARATUS AND METHOD FOR PREPARING TISSUE SAMPLES FOR HISTOLOGICAL EXAMINATION	:	Confirmation No. 4303

REPLY BRIEF UNDER 37 C.F.R. § 41.41

Submitted herewith is Applicant's Appeal Brief, appealing the Final Rejection of Claims 6-14.

(1) Status of Claims

Claims 6-14 are pending in the application. This Reply Brief is in response to the Examiner's Answer dated May 13, 2008, which was in response to the Applicant's Appeal Brief dated February 18, 2008 appealing from the Final Office Action dated November 15, 2007, rejecting Claims 6-14.

(2) Grounds of rejection to be reviewed on Appeal

The grounds of rejection to be reviewed on Appeal are the final rejection of Claims 6 and 10-14 under 35 U.S.C. § 103(a) for being unpatentable over Mathus et al. (U.S. Patent No. 5,856,176) in view of Berry et al. (U.S. Patent No. 5,240,854). The grounds of rejection to be reviewed on Appeal also include the final rejection of Claims 7-9 under 35 U.S.C. § 103(a) for being unpatentable over Mathus et al. (U.S. Patent No. 5,856,176) in view of Berry et al. (U.S. Patent No. 5,240,854) as applied to Claim 6 and further in view of Intengan (U.S. Patent No. 4,440,301).

(3) Argument

Claim Rejections – 35 U.S.C. § 103(a)

Claims 6 and 10-14 under 35 U.S.C. § 103(a) for being unpatentable over Mathus et al. (U.S. Patent No. 5,856,176) in view of Berry et al. (U.S. Patent No. 5,240,854).

Independent Claim 6

It is respectfully believed that, contrary to the Examiner's Answer, Mathus et al. does not disclose stackable tissue processing cassettes indicated by numeral 20 in FIG. 1. Instead Mathus et al. recites: "The present invention is directed to a culture dish that can be used for growing cultures such as tissue cells, bacteria, viruses and the like. An illustrative embodiment of a culture dish 20 according to the present invention is shown in FIGS. 1—6B, and includes a base 22 and a lid 24. The cultures are grown in the base 22, with the lid 24 being placed over the base 22 primarily to prevent contamination of the cultures and to control evaporation of a liquid growth medium." (emphasis added) (Mathus et al., Column 2, Lines 50-57). Adjacent culture dishes do not allow hot liquid to flow between them since that will completely destroy the function and purpose of the culture dish, which is to grow a specific culture in a liquid growth medium so that a specific virus, bacteria, or cell can be developed for identification.

Moreover, contamination can occur so easily that "...the cultures can become contaminated by the user's thumbs extending over the edge of the dish when grasped

from the sides." (Mathus et al., Column 1, Lines 50-52). If the presence of a human thumb can cause contamination, then it would go without saying that if liquid, e.g., hot, liquid paraffin, would flow between culture dishes, it would create a tremendous contamination problem. This is perceived by Mathus et al. as being completely undesirable. In fact, Mathus et al. cites "...preventing interference in the cultures in the lower dish..." as being the desired focus and feature of the claimed Invention (Column 4, Lines 33-34). Moreover, a tissue processing cassette, as recited and required by Applicant's Claims, is for the purpose of taking tissue samples and immersing them with liquid paraffin. When cooled, the paraffin block that houses the tissue sample is then sliced so that a tissue sample can be examined under a microscope for cancer or other medical ailments. In marked contrast, a culture dish is for allowing bacteria and viruses to grow so that medical personnel can determine the ailment, e.g., strep sore throat, and then provide the proper medical treatment. The tissue processing cassette is just to hold the tissue in place and receives liquid paraffin to secure the tissue in a rectangular block that is formed upon cooling.

Moreover, free flowing, hot, molten paraffin would destroy most living bacteria and viruses found in a culture dish. The culture dish's sole function and purpose is for identifying the type of bacteria growing therein. Therefore, free flowing hot liquid, e.g., paraffin, (or even a thumb as disclosed by Mathus et al.), would contaminate the culture dish. This would destroy the culture dish for its intended purpose of being able to identify a specific type of bacterium from a sample in order to make a medical diagnosis. It is respectfully believed that all claim limitations must be considered so that tissue processing cassette for histological examination that requires

the flow of hot liquid, e.g., paraffin, so that tissue samples can be locked in solid form, upon cooling, for latter cutting and microscopic inspection has nothing to do with a culture dish for identifying bacteria and viruses that cannot allow even a human finger, much less hot, liquid paraffin, to touch the inside of the culture dish without destroying the culture. When evaluating a claim for obviousness, all claim limitations must be considered. *In re Evanega*, 829 F.2d 1110, 4 U.S.P.Q. 2d 1249 (Fed. Cir. 1987). Moreover, "...if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). It is respectfully believed that a tissue processing cassette for histological examination provides an utterly different function, operates in a totally different way, with a completely different result. This is not analogous art since the claimed function of the Applicant's invention that would: "...allow liquid paraffin to flow from one of the first and second containers and into the other of the first and second containers while the first and second cassettes remain interlocked...." (Applicant's Claim 6). This would absolutely destroy the function of a culture dish. Contrary to the statements made in the Examiner's Answer, there is no benefit to sharing medium and culture conditions since the purpose of the culture dish is to identify a specific virus, bacteria or cell with each culture dish. Having layered culture dishes sharing the same contaminated sample provides no value in a medical diagnosis. Moreover, contrary to the Examiner's position, it is not beneficial to allow fluid medium to flow at uniform and identical flow rates since you do not want liquid to flow in a culture dish but for a bacteria or virus to develop and grow within each

culture dish. Each individual culture dish should provide a separate and isolated piece of medical evidence. The presence of hot, molten paraffin flowing between two culture dishes makes it virtually impossible for bacteria to grow within either of the culture dishes. Therefore, due to this fact, the Examiner clearly failed to provide sufficient evidence to show that one having ordinary skill in the art would have done what Applicant did. *United States v. Adams*, 383 U.S. 39 (1966); *In re Kahn*, 441 F.3d 977, 987-988 (Fed. Cir. 2006); *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick, Co.*, 464 F.3d 1356, 1360-1361 (Fed. Cir. 2006).

Also, Mathus et al. recites in Column 4, Lines 25-34: "In some applications, it may be desirable to stack a plurality of culture dish bases 22, without lids, on top of each other. Accordingly, in one embodiment of the invention, the culture dish is provided with a feature that enables it to be stacked in the base of another dish with the beads 32 of the dish sitting above the bottom wall 26 of the receiving dish to enable air circulation between the stacked dishes, thereby providing uniform temperature distribution across the upper dish and **preventing interference with the cultures in the lower dish.**" Mathus et al. also recites in Column 3, Lines 37-41: "The circulation of air can also limit the development of condensation between adjacent dishes, and prevent a vacuum or fluid lock between the dish and a surface on which it is disposed, such as another dish on which it is stacked or a laboratory bench." The stacking of culture dishes has nothing to do with contamination as long as liquid does not flow between the culture dishes. Bacteria or viruses need air to develop a culture. Hot liquid flowing into a culture dish will wash the bacteria away into the next culture dish and kill the bacteria that are in the process of being developed. It is respectfully

believed that the rudimentary features of a culture dish (otherwise known as a petri dish) must be considered in comparison to two tissue processing cassettes for histological examination that allow liquid paraffin to flow between them. Liquid paraffin cannot be allowed to flow between adjacent culture dishes without destroying the very function and purpose of a culture dish.

The Examiner goes on to state on Page 8, Lines 6-8 of the Examiner's Answer: "Liquids moving through the apertures of the bottom of the second cassette will directly and immediately be introduced to the interior of the first cassette, and will not create a condensation build up between cassettes." It is respectfully believed that contrary to the Examiner's statement, there are no apertures in the bottom of the culture dish 20 that would allow liquid paraffin to pass through, and none have been identified by the Examiner. There is only a reference to potential side wall apertures to allow air circulation. For example, Mathus et al. recites: "Due to slight warpage in the parts that results from the molding process, gaps exist between the lid top wall and the base rim, so that no airtight seal is formed. Therefore, gases can pass through these gaps to provide the gas exchange needed for growing tissue cells. It should be understood that the dish can include other features to enable gas exchange. For example, the lid and base can be configured so that the lid is supported above the base upper rim, or **apertures can be formed in the base sidewall or the lid.**" (Mathus et al., Column 5, Lines 47-56). These apertures are located in the base sidewall or lid and not the base. Therefore, contrary to the Examiner's Answer which states: "Berry is not relied upon for teachings regarding the use of a plurality of apertures along the bottom wall of a second cassette because this is clearly disclosed by Mathus," it is respectfully

believed that there are no apertures on the bottom wall of the culture dish disclosed in Mathus et al., and it is only these sidewall apertures for providing gas exchange that are identified by the Examiner.

Berry et al. discloses sealed cell culture containers that are connected to an inlet conduit 16 and an outlet conduit 18 through bores 42 and 44. Furthermore, Berry et al. recites: "In operation, the device first is seeded with cells. Then, fluid media is supplied to the attached cells as follows. Fluid medium is introduced into inlet manifold 20 via inlet conduit 16. The fluid medium then passes 20 through the various flow restriction ports 22 into the associated growth chambers 24. Because of the overall construction of the flow restriction ports and the growth chambers, flow is distributed continuously and thoroughly to all surfaces of the growth chamber 24, 25 the fluid medium always moving generally in a direction toward the outlet flow restrictors 23. The medium then passes through the outlet flow restrictors 23, into the outlet manifold 28 and then out of the device via the outlet conduit 18." (Berry et al., Column 5, Lines 17-30). Therefore, the operation of Berry et al. would be destroyed with apertures in the bottom wall of each growth chamber since it would not allow medium to be distributed continuously and thoroughly to all surfaces of the growth chamber but rather the fluid coming in from the inlet would drain immediately into the next lower chamber from the apertures closest to the inlet instead of flowing completely through the entire horizontal length of the growth chamber. Moreover, as stated previously, the Examiner acknowledges that Berry et al. does not disclose apertures in the bottom wall of the second container. Therefore, neither reference discloses a plurality of apertures in the bottom wall of a container. It is respectfully

believed to be axiomatic that this claimed feature cannot come into being by their combination. "To reject a claim based on this rationale, U.S. Patent Office personnel must resolve the Graham factual inquiries. Office personnel must then articulate the following: (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, **with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;**" (Federal Register / Volume 72, No. 195 / Wednesday, October 10, 2007 / Notices, Page 57529, "*Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in View of the Supreme Court Decision in KSR International Co. v. Teleflex Inc.*"). This is clearly not the case due to the fact that neither reference discloses a plurality of apertures in the bottom wall of a container. A person of ordinary skill in the art would not look to Berry et al. for guidance in issues dealing with tissue processing cassettes for histological examination and no solution would be found. The rationale to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art. *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282, 189 U.S.P.Q. 449, 453 (1976); *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 62-63, 163 U.S.P.Q. 673, 675 (1969); *Great Atlantic & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U.S. 147, 152, 87 U.S.P.Q. 303, 306 (1950).

Also, Berry et al. is for a high density cell culture system to grow cells with nutrient addition. This presents a marked contrast to the Applicant's claimed invention of a tissue processing cassette for histological examination that requires the flow of hot, molten liquid, e.g., paraffin, so that tissue samples can be locked in solid form, upon cooling, for latter cutting and then microscopic inspection of the sliced, paraffin embedded tissue sample. These are two very different containers for very different purposes. “[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385 (U.S. 2007). If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art. It is respectfully believed that there is no reason to combine Mathus et al. with Berry et al. since you cannot attain the claimed invention by this combination.

Therefore, it is respectfully believed that the rejection of Claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. should be reversed.

Dependent Claim 10

The Examiner's position recited in the Examiner's Answer is that: “It is true that Figure 4 does not depict the use of a plurality of apertures arranged at the bottom of the first cassette. However, Mathus discloses in column 5, lines 50-56 that apertures are provided along the base of each cassette. Mathus teaches that the base of

a cassette will include apertures during stacking since the base of a second cassette will function as the lid of the first cassette. When the first cassette is stacked on top of another cassette, it is clear that the first cassette will comprise apertures just as the second cassette includes apertures when it is stacked on top of the first cassette." (Examiner's Reply, Lines 9-15). However, Column 5, Lines 50-56 of Mathus et al. actually recites: "Therefore, gases can pass through these gaps to provide the gas exchange needed for growing tissue cells. It should be understood that the dish can include other features to enable gas exchange. For example, the lid and base can be configured so that the lid is supported above the base upper rim, or apertures can be formed in the **base sidewall or the lid**." (emphasis added). Therefore, there can be gaps or apertures in the base sidewall so that there is a gas exchange for growing tissue cells. If there were holes in the bottom of the culture dish, the sample could fall through and run the risk of contamination with all of the medium draining out of the culture dish. Moreover, the passage of liquid paraffin from an upper culture dish to a lower culture dish would destroy the ability of either culture dish to grow a viable culture of a virus, bacteria, cell, and so forth. The presence of gaps or apertures in a culture dish's sidewalls have no relation to "the plurality of apertures of the bottom wall of the second cassette allow liquid paraffin to flow from **one of the first and second containers** and into the other of the first and second containers while the first and second cassettes remain interlocked." (emphasis added). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (C.C.P.A. 1970).

In addition, as recited on Page 9, Lines 16-20 of the Examiner's Reply: "Even if Mathus did not disclose apertures at the bottom of each cassette, it would have been obvious to create apertures in this manner upon review of the teachings of Berry. As noted already, Berry teaches that liquids in one culture cassette are allowed to communicate with liquids in other culture cassette using a plurality of bores (Figure 2:20) in the base walls (see column 4, lines 29-44). This would allow each stacked cassette in Mathus to receive fluid." In reality, Berry et al. recites in Column 4, Lines 29-44: "Each plate 26 has a bore at diagonally-opposed, filled corners 40. In the assembled condition, the bores 42, 44 of the stacked plates 26 are axially aligned and form the inlet and outlet manifolds 20, 28, respectively. A passage 48 extends from each bore 42, 44 through the filled corners 40 to the interior space defined by the side walls and floor of each plate 26. These passages in the assembled condition form the fluid restriction ports 22, 23 providing fluid access between the manifolds 20, 28 and the growth chambers 24. Each passage has a floor defined by a portion of the upper surface 30 of the plate 26 and sidewalls 49 formed integrally as part of the corners 40 and having a height equal to the peripheral ridge 32. The fluid restriction ports 22, 23 are formed when the flat bottom surface of an opposing plate 26 is stacked to seal the open upper extremity of the passage 48." Therefore, these chambers are sealed with a single inlet and a single outlet to provide fluid. "This arrangement causes medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). This function and purpose would be totally destroyed by having a plurality of apertures in the base of each

chamber since fluid would flow downward to next lower chamber at the base of the chamber closest to the inlet. This would prevent “the medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface.” If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Moreover, “all words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). It is respectfully believed to be clear that the Examiner failed to provide sufficient evidence to provide any reason as to why one having ordinary skill in the art would have combined Mathus et al. with Berry et al. since one with ordinary skill in the art would not arrive at the Applicant’s claimed Invention. *United States v. Adams*, 383 Appeal 2007-2748 Application 10/177,970 U.S. 39 (1966); *In re Kahn*, 441 F.3d 977, 987-88 (Fed. Cir. 2006); and *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick, Co.*, 464 F.3d 1356, 1360-61 (Fed. Cir. 2006).

Additionally, Claim 10 depends from Claim 6 and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 10 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. should be reversed.

Dependent Claim 11

As previously explained above, if there were holes in the bottom of the culture dish recited in Mathus et al., the sample would be exposed and run the risk of contamination with the liquid medium being drained from the culture dish. Moreover, the passage of liquid paraffin from an upper culture dish to a lower culture dish would destroy the ability of either culture dish to grow a viable culture of a virus, bacteria, cell, and so forth. The presence of gaps or apertures in a culture dish's sidewalls has no relation to "the plurality of apertures of the bottom wall of the second cassette allow liquid paraffin to flow from one of the first and second containers and into the other of the first and second containers while the first and second cassettes remain interlocked." (emphasis added). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (C.C.P.A. 1970). The apertures in the sidewalls or lid of Mathus et al. are only present to enable gas exchange. If the base portion of the culture or petri dish of Mathus et al. or even the lower portion of the sidewalls had any apertures, it would allow the medium to leak out of the culture dish and expose the bacteria, cells, or viruses forming within the culture dish to contamination. This is in addition to the contamination caused by flow of hot, liquid paraffin between two culture dishes.

In addition, the Examiner recites on Page 9, Lines 16-20: "Even if Mathus did not disclose apertures at the bottom of each cassette, it would have been obvious to create apertures in this manner upon review of the teachings of Berry. As noted already, Berry teaches that liquids in one culture cassette are allowed to communicate with liquids in other culture cassette using a plurality of bores (Figure 2:20) in the base walls (see column 4, lines 29-44). This would allow each stacked cassette in Mathus to receive fluid." In reality, Berry et al. recites in Column 4, Lines 29-44: "Each plate 26 has a bore at diagonally-opposed, filled corners 40. In the assembled condition, the bores 42, 44 of the stacked plates 26 are axially aligned and form the inlet and outlet manifolds 20, 28, respectively. A passage 48 extends from each bore 42, 44 through the filled corners 40 to the interior space defined by the side walls and floor of each plate 26. These passages in the assembled condition form the fluid restriction ports 22, 23 providing fluid access between the manifolds 20, 28 and the growth chambers 24. Each passage has a floor defined by a portion of the upper surface 30 of the plate 26 and sidewalls 49 formed integrally as part of the corners 40 and having a height equal to the peripheral ridge 32. The fluid restriction ports 22, 23 are formed when the flat bottom surface of an opposing plate 26 is stacked to seal the open upper extremity of the passage 48." Therefore, these chambers are sealed with a single inlet and a single outlet to provide fluid. "This arrangement causes medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). This function and purpose of the cell growth chambers disclosed in Berry et al. would be destroyed by having a plurality of

apertures in the base of each growth chamber since fluid would flow downward to next lower chamber at the base of the growth chamber closest to the inlet. This would prevent "...the medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Moreover, "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970).

Additionally, Claim 11 depends from Claim 10 and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. should be reversed.

Dependent Claim 12

The fact that two culture dishes (otherwise known as petri dishes) are similar in size as disclosed in Mathus et al. is irrelevant. Mathus et al. is a culture dish that cannot allow apertures to be present in the bottom wall of the container since all of the

liquid medium will drain out of the bottom of the culture dish. In addition, the sterility of the culture dish will be compromised.

Moreover, Berry et al. discloses cell growth chambers that are sealed with a single inlet and a single outlet to provide fluid. This provides "This arrangement causes medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). This function and purpose would be destroyed by having a plurality of apertures in the base of each growth chamber since fluid would flow downward to next lower chamber at the base of the growth chamber closest to the inlet. This would prevent "the medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Moreover, "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970).

Also, the culture dish in Mathus et al. or the cell growth chamber of Berry et al. present a marked contrast to the Applicant's claimed invention of a tissue processing cassette for histological examination that requires the flow of liquid, e.g., paraffin, so that tissue samples can be locked in solid form, upon cooling, for later cutting and then microscopic inspection of the sliced, paraffin embedded tissue sample. These are very

different containers for very different purposes. "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR International Co. v. Teleflex Inc.*, 82 U.S.P.Q.2d 1385 (U.S. 2007). If any of these findings cannot be made, then this rationale cannot be used to support a conclusion that the claim would have been obvious to one of ordinary skill in the art. In this case, apertures in the bottom wall of the containers in Mathus et al. and Berry et al. would destroy the devices disclosed in each of these References for their stated purposes. This is not to mention the effect of hot, molten, liquid paraffin flowing between adjacent culture dishes (Mathus et al.) or cell growth chambers (Berry et al.).

Additionally, Claim 12 depends from Claim 6 and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. should be reversed.

Independent Claim 13:

Claim 13 requires that "....a plurality of apertures extending therethrough, wherein the first cassette can be interlocked with the second cassette, wherein the plurality of apertures of the bottom wall of the second cassette allow liquid paraffin to flow from one of the first and second containers and into the other of the first and

second containers...." This feature is not present or feasible in Mathus et al. since the only location for apertures found in Mathus et al. is found on the "base sidewall or lid." (Mathus et al., Column 5, Lines 55-56). Moreover, having apertures in the bottom wall of a culture dish will create what is identified by Mathus et al. in the Background of the Invention as a problem. Mathus et al. recites: "**To control evaporation of the medium and prevent contamination of the cultures**, culture dishes generally include a base for receiving the cultures and a lid that can be placed on the base to cover it." (Mathus et al., Column 1, Lines 32-35). Apertures located in the bottom of a culture dish will completely drain the culture dish of all medium and invite contamination, which will destroy the operation and function of a culture dish. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Moreover, Claim 13 is very similar to Claim 6 and overcomes the rejection of Claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. in the same manner as Claim 6 as previously described above.

Therefore, it is respectfully believed that the rejection of Claim 13 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. should be reversed.

Dependent Claim 14:

Claim 14 requires: "...wherein the first cassette is devoid of a lid for closing the top opening of the first container, and the first cassette interlocks with the second

cassette such that the bottom wall of the second cassette closes the top opening of the first container to prevent the histological specimen from exiting the first container.” Mathus et al. are stackable culture dishes (otherwise known as petri dishes) and not for a “...system of stackable tissue processing cassettes.” The “...plurality of apertures of the bottom wall of the second cassette allow liquid paraffin to flow from one of the first and second containers and into the other of the first and second containers...” are not only wholly absent from both Mathus et al. and Berry et al., but as explained previously, would completely destroy Mathus et al. its intended purpose of being a culture dish that holds a liquid medium for growing cultures of bacteria, viruses, cells and the like, and would completely destroy Berry et al. by having a plurality of apertures in the base of each growth chamber since fluid would flow downward to next lower chamber at the base of the growth chamber closest to the inlet. The plurality of apertures in the bottom wall would prevent “the medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface” as required in Berry et al. Therefore, Mathus et al. clearly teaches away from the Applicant’s Invention, as claimed, in addition to destroying the Applicant’s Invention for its intended purpose. The Supreme Court held in *U.S. v. Adams*, 383 U.S. 39, 148 U.S.P.Q. 479 (1966), that one important indicium of nonobviousness is “teaching away” from the claimed invention by the prior art or by experts in the art at (and/or after) the time the invention was made. This is specifically mandated by the Manual of Patent Examining Procedure (M.P.E.P.) § 2141.02, which recites: “A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead

away from the claimed invention." *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). Moreover, "...if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

Additionally, Claim 14 depends from Claim 13 and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. should be reversed.

Claims 7-9 under 35 U.S.C. § 103(a) for being unpatentable over Mathus et al. (U.S. Patent No. 5,856,176) in view of Berry et al. (U.S. Patent No. 5,240,854) as applied to Claim 6, and further in view of Intengan (U.S. Patent No. 4,440,301).

Dependent Claim 7

As stated previously above, neither Mathus et al. nor Berry et al. disclose apertures in the bottom wall of either the culture dish disclosed in Mathus et al. or the cell growth chamber of Berry et al. Mathus et al. only discloses apertures in the lid or sidewalls of the culture or petri dish where having apertures in the bottom wall would

drain out the medium and create contamination. Berry et al. requires from the inlet to the outlet "...medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). Therefore, not only are there no apertures in the bottom walls of the growth chambers but the presence of these apertures would have the fluid flow downward out of the growth chamber near the inlet and prevent "nutrient supply and even fluid flow across the entire growth surface." Therefore, it is respectfully believed to be axiomatic that a feature not disclosed in either of two cited references does not come into being by their combination. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 U.S.P.Q.2d 1329, 1336 (Fed. Cir. 2006). In this situation, the rational underpinning is completely missing when neither cited reference discloses the claim limitation, and both references would be destroyed for their intended purpose if the claim limitation was present in the culture dish of Mathus et al. or the cell growth chamber of Berry et al.

In addition, Intengan discloses stackable reagent slides and not two tissue processing cassettes for histological examination that allow liquid paraffin to flow between them. Also, a reagent slide disclosed in Intengan would completely fail for its intended purpose if fluid, e.g., reagent, would pass through apertures from the bottom wall of the slide. This would contaminate the entire microscope platform and would prevent the necessary reaction from occurring on the microscope slide by draining out

the fluid, e.g., reagent, which is necessary for creating a reaction. Intengan specifically recites: "In addition, the reagent slide of the present invention provides a unique means for retaining reagent and a fluid sample thereon." (Intengan, Column 2, Lines 15-17). No reagent is retained when there are apertures located in the base wall of the reagent slide that allows the reagent to exit the reagent slide.

Therefore, there are three cited references and none of them disclose apertures in the bottom wall. Moreover, if there were apertures in the bottom wall, each device would be destroyed for its intended purpose. There is no reason or motivation to combine Intengan with Mathus et al. and Berry et al. It is respectfully believed that there needs to be a greater motivation for someone with ordinary skill in the art to make this combination than merely finding two completely unrelated devices that can be snapped together since the combination of these three References would not create the Applicant's Invention, as claimed.

Moreover, Claim 7 depends from Claim 6 recited above, and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. as applied to Claim 6, and further in view of Intengan should be reversed.

Dependent Claim 8

As stated above, neither Mathus et al. nor Berry et al. disclose apertures in the bottom wall of either the culture dish disclosed in Mathus et al. or the cell growth chamber of Berry et al. Mathus et al. only discloses apertures in the lid or sidewalls of the culture or petri dish, where having apertures in the bottom wall would drain out the medium and create contamination. Berry et al. requires from the inlet to the outlet "...medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). Therefore, not only are there no apertures in the bottom walls of the growth chambers but the presence of these apertures would have the fluid flow downward out of the growth chamber near the inlet and prevent "nutrient supply and even fluid flow across the entire growth surface." Therefore, it is respectfully believed to be axiomatic that a feature not disclosed in either of two cited references does not come into being by their combination. The Federal Circuit has stated that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 U.S.P.Q.2d 1329, 1336 (Fed. Cir. 2006). In this situation, the rational underpinning is completely missing when neither cited reference discloses the claim limitation, and both references would be destroyed for their intended purpose if the Applicant's claim limitation was present in the culture dish of Mathus et al. or the cell growth chamber of Berry et al.

Moreover, Intengan discloses stackable reagent slides and not two tissue processing cassettes for histological examination that allow liquid paraffin to flow between them. Also, a reagent slide disclosed in Intengan would completely fail for its intended purpose if fluid, e.g., reagent, would pass through apertures from the bottom wall of the slide. This would contaminate the entire microscope platform and would prevent the necessary reaction from occurring on the microscope slide by draining out the fluid, e.g., reagent, which is necessary for creating a reaction.

Therefore, there are three cited references without any of them disclosing apertures in the bottom wall. Moreover, if there were apertures in the bottom wall, each device would be destroyed for its intended purpose. There is no reason or motivation to combine Intengan with Mathus et al. and Berry et al. It is respectfully believed that there needs to be a greater motivation for someone with ordinary skill in the art to make this combination than merely finding two completely unrelated devices that can be snapped together since the combination of these three References would not create the Applicant's Invention, as claimed. Moreover, "to snap two components" together can be either "to close or fit in place with an abrupt movement or a sharp sound." Therefore, merely the recitation of term "snap" does not automatically indicate that an auditory sound is present but could be merely be an abrupt movement locking two components into position.

References within the statutory terms of 35 U.S.C. § 103 qualify as prior art for an obviousness determination only when analogous to the claimed invention. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of

the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986); see also *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979) and *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004).

A culture or petri dish disclosed in Mathus et al., a cell growth chamber disclosed in Berry et al. and stackable reagent slides disclosed in Intengan would each be destroyed by the presence of hot, molten paraffin. A histological examination cassette that is used for holding a tissue sample in position so that it can be encased in paraffin and then removed and sliced so that it can be viewed under a microscope is not in the same field of endeavor as culture dishes, cell growth chambers and reagent slides; these References are not reasonably pertinent since there are no apertures located in the bottom wall of any of these References, and each of these References would be destroyed for its intended purpose if apertures were present in the bottom wall. This is in addition to allowing "...liquid paraffin to flow from one of the first and second containers and into the other of the first and second containers while the first and second cassettes remain interlocked", which would prevent cells or viruses from growing either in a cell dish or cell growth chamber and stop most chemical reactions from taking place in a reagent slide. Therefore, "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness' . . . however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ."

KSR Int'l v. Teleflex Inc., 127 S. Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). In this case, there is no rational underpinning to use these cited References since the devices disclosed in these cited References would be destroyed if they adopted the recited features required by the Applicant's Claims, i.e., apertures in the bottom wall and flowing liquid paraffin between the two containers.

Also, Claim 8 depends indirectly from Claim 6, recited above, and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C. § 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 8 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. as applied to Claim 6, and further in view of Intengan should be reversed.

Dependent Claim 9

Intengan recites: "As is best shown in FIG. 1, interlocking ribs 50 and grooves 60 permit the movement of slide 12 along an axis parallel to the plane of the slide planar body 14 (**illustrated by arrows A**) when the slide is interlocked with another such slide. Although the rib and groove 60 design shown in the preferred embodiment would permit the slide to be moved in either direction along this axis, appropriate stops (not shown) could easily be incorporated to permit such movement in only one direction along this axis. Furthermore, in order to permit the slides to be snapped together into their interlocked position **along an axis perpendicular to the plane of planar body 14 (illustrated by arrows B)**, one or both of the inner edges 52 of ribs 50

and the outer edges 62 of grooves 60 may be beveled." (Intengan, Column 3, Lines 56-68 and Column 4, Lines 1-3). Therefore, although the snapping together of reagent slides occurs in the perpendicular direction, i.e., arrows B, the interlocking of the two reagent slides is specifically stated to be in the parallel direction, i.e., arrows A. Claim 9 recites: "...so that when the first cassette **interlocks** with the second cassette, the second cassette is moved relative to the **first cassette in a direction generally perpendicular to the generally planar upper face.**" Therefore, Intengan recites that the interlocking means is "said planar body being further provided with **interlocking means** said **interlocking means comprising ribs and mating grooves arranged along an axis parallel to the plane of said planar body so as to permit the sliding engagement and disengagement of the top face of said slide with the bottom face of a slide of like construction.**" (Intengan, Claim 1, Column 4, Lines 19-25). Although the two reagent slides can be snapped together in a perpendicular direction, the interlocking mechanism is defined as a parallel operation using ribs and mating grooves, which is marked contrast to the "...second cassette is moved relative to the first cassette in a direction generally perpendicular to the generally planer upper face..." as recited in Claim 9.

Moreover, it is respectfully believed that Mathus et al. does not disclose a device capable of allowing paraffin to flow through apertures in the bottom of the device. Mathus et al. only proposed apertures in the upper **side wall** to provide gas exchange. The presence of apertures in the bottom wall will dissipate all of the media. Mathus et al. considers a major problem with culture dish as something that can: "...cause liquid

growth medium to spill from the dish, even when covered with a lid." (Mathus et al., Column 1, Lines 56-57). Therefore, apertures in the bottom wall of a culture dish will create the exact problem that Mathus et al. desires to overcome with the complete dissipation of medium through apertures in the bottom wall of the culture dish. Moreover, the other tremendous problem cited by Mathus et al. is "...if a culture dish is handled with its lid removed, the cultures can become contaminated by the user's thumbs extending over the edge of the dish when grasped from the sides." (Mathus et al., Column 1, Lines 49-52). Once again, contamination is considered by Mathus et al. to be a serious problem that destroys the operation of a culture dish and having apertures in the bottom wall of a culture dish will greatly exacerbate this contamination problem.

Moreover, Berry et al. discloses cell growth chambers that are sealed with a single inlet and a single outlet to provide fluid. This provides: "This arrangement causes medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). This function and purpose would be destroyed by having a plurality of apertures in the base of each growth chamber since fluid would flow downward to next lower chamber at the base of the growth chamber closest to the inlet. This would prevent "the medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no

suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Moreover, "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970).

Moreover, Berry et al. discloses cell growth chambers that are sealed with a single inlet and a single outlet to provide fluid. This provides: "This arrangement causes medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." (Berry et al., Column 4, Lines 50-54). This function and purpose would be destroyed by having a plurality of apertures in the base of each growth chamber since fluid would flow downward to next lower chamber at the base of the growth chamber closest to the inlet. This would prevent "the medium entering the growth chamber to flare out and be evenly dispersed in a radial pattern into the growth chamber space, promoting nutrient supply and even fluid flow across the entire growth surface." If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984). Moreover, "all words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A 1970).

Also, Claim 9 depends indirectly from Claim 6, recited above, and contains all of the limitations thereof. If an independent claim is nonobvious under 35 U.S.C.

§ 103(a), then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Therefore, it is respectfully believed that the rejection of Claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Mathus et al. in view of Berry et al. as applied to Claim 6, and further in view of Intengan should be reversed.

For all the reasons set forth above, it is respectfully submitted that the rejections of Claims 6-14 should be reversed and the Claims allowed.

Respectfully submitted,

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